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CENTRAL FAX CENTER**JAN 30 2008****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 09/888,541 Confirmation No. 9359
Applicant : M. NAKAMAKI et al.
Filed : June 26, 2001
Title : PRINTER, PRINTER CONTROL METHOD, PROGRAM
THEREFOR, AND RECORDING MEDIUM STORING THE
PROGRAM
TC/AU : 2625
Examiner : M. Milia
Docket No. : KYO-100
Customer No.: 24956

Mail Stop: APPEAL BRIEFS - PATENTS

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This appeal is taken from the final rejection of claims 1-20 set forth in the Final
Office Action dated April 30, 2007. In accordance with 37 CFR 41.37,

Appellants address the following items.

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I. REAL PARTY IN INTEREST

The real party in interest in this application is Seiko Epson Corporation of Japan.

II. RELATED APPEALS AND INTERFERENCE

There are no related prior or pending appeals, judicial proceedings or interferences known to the appellant, appellant's legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-18 and 20 are currently pending, and all of the pending claims have been finally rejected. Accordingly, the final rejection of claims 1-18 and 20 is being appealed.

IV. STATUS OF AMENDMENTS

No amendment was filed subsequent to the final rejection.

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V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claims 1, 18 and 20 are the independent claims.

A. Summary of the Subject Matter of Independent Claim 1

According to independent claim 1, the invention is directed to a printer (e.g., item 10 in FIG. 1) having a receiving buffer (e.g., 22, FIG. 1). See page 5, lines 24-18. The receiving buffer stores print data and control data without analysis as received data in the order of receipt. See page 5, lines 31-35. An executing section (e.g., controller 20, FIG. 1) is configured to read the received data from the receiving buffer in the order of storage and develop the received data into an image if the received data is the print data and execute a control command if the received data is a control command of the control data. See page 6, lines 6-14.

A pre-processing section is configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data (e.g., read-out task 42 reads the received data stored in the receiving buffer 22 in the order of storage, as shown in Fig. 2, which is executed by the CPU of controller 24 (see page 6, lines 24-28). (Controller 24 includes a CPU, see page 5, line 27-29). The read-out task 42 delivers the read-out data to the main task 44. See page 6, lines 28-32. When a specific control command of the control data from the pre-read received data is found, the pre-processing section executes a procedure corresponding to the detected control command prior to the executing section. See page 7, lines 9-12, which state that the main task 44 pre-reads the received data stored in the receiving

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buffer 22, and determines whether there is any cancel command in the received data or not. See also page 7, lines 9-11 and 17-22, which state that if there is a cancel command in the received data, the main task 44 transmits the cancel command to the print management task to cancel part of the print request already received, but not printed.

B. Summary of the Subject Matter of Independent Claim 18

According to independent claim 18, Applicant's invention is directed to a printer control method comprising the steps of storing received print data and received control data as received data in a receiving buffer (e.g., Fig. 1, 22) located within the printer (10) in the order of receipt without analysis of the data. See page 5, lines 30-34 and page 6, lines 1-5. The method of claim 18 further includes reading the received data out of the receiving buffer in the order of storage, and developing the print data into an image if the received data is the print data. See page 6, lines 6-10 and lines 26-31 (e.g., read-out task 42 reads the received data stored in the receiving buffer 22 in the order of storage, as shown in Fig. 2, which is executed by the CPU of controller 24). According to claim 18, a control command is executed if the received data is a control command of the control data (see e.g., page 6, lines 6-14, which states that the if the received data is the control data, the main task 44 executes the control command the control data indicates).

The method of claim 18 also includes pre-reading the received data stored in the receiving buffer prior to reading the received data (see e.g., page 7, lines 9-10

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which state that the main task 44 pre-reads the received data stored in the receiving buffer 22) and pre-executing a procedure corresponding to a specific control command prior to the executing of the specific control command if the specific control command of the control data is detected by the pre-reading (see e.g., page 7, lines 10-11 and 17-22, which states that the if the received data is the control data, the main task 44 executes the control command the control data indicates).

C. Summary of the Subject Matter of Independent Claim 20

According to independent claim 20, Applicant's invention is directed to a computer-readable medium storing a program for controlling a printer, the program comprising the steps of storing received print data and received control data as received data in a receiving buffer (e.g., Fig. 1, 22) located within the printer (10) in the order of receipt without analysis of the data. See page 5, lines 30-34 and page 6, lines 1-5. Claim 20 further includes reading the received data out of the receiving buffer in the order of storage; and developing the print data into an image if the received data is the print data. See page 6, lines 6-10 and lines 26-31 (e.g., read-out task 42 reads the received data stored in the receiving buffer 22 in the order of storage, as shown in Fig. 2, which is executed by the CPU of controller 24).

According to claim 20, a control command is executed if the received data is a control command of the control data (see e.g., page 6, lines 6-14, which states that the if the received data is the control data, the main task 44 executes the control command the control data indicates).

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The computer-readable medium storing a program for controlling a printer of claim 20 also includes pre-reading the received data stored in the receiving buffer prior to reading the received data (see e.g., page 7, lines 9-10 which state that the main task 44 pre-reads the received data stored in the receiving buffer 22) and pre-executing a procedure corresponding to a specific control command prior to the executing of the specific control command if the specific control command of the control data is detected by the pre-reading (see e.g., page 7, lines 10-11 and 17-22, which states that the if the received data is the control data, the main task 44 executes the control command the control data indicates).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on appeal are:

- (1) Whether claims 1, 4, 5, 18 and 20 are anticipated under 35 U.S.C. §102(e) by Koakutsu et al, U.S. Patent No. 6,285,459 (hereafter Koakutsu).
- (2) Whether claims 2-3 are unpatentable under 35 U.S.C. §103(a) over Koakutsu as applied to claim 1 above, and further in view of Kashiwazaki, U.S. Patent No. 6,570,605.
- (3) Whether claims 6-13 are unpatentable under 35 U.S.C. §103(a) over Koakutsu and Kashiwazaki as applied to claim 2, and further in view of Kageyama et al, U.S. Patent No. 6,504,619 (hereafter Kageyama).

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(4) Whether claims 14-15 are unpatentable under 35 U.S.C. §103(a) over Koakutsu as applied to claim 1; and further in view of Hashimoto, U.S. Patent No. 6,804,016 (hereafter Hashimoto).

(5) Whether claims 16-17 are unpatentable under 35 U.S.C. §103(a) over Koakutsu et al and Hashimoto as applied to claim 14 above, and further in view of Kashiwazaki and Kageyama.

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VII. ARGUMENT

A. Rejection of Claims 1, 4, 5, 18 and 20 under 35 U.S.C. §102(e)

1. Rejection of Claim 1 under 35 U.S.C. § 102(e)

The Examiner takes the position that Koakutsu discloses a printer comprising a receiving buffer in which received print data and [control] data are stored therein without analysis as received data in the order of control receipt (see Figs. 1 and 2, column 3 lines 55-63, and column 5 lines 60-64). Appellant notes that the receiving buffer 120 of Koakutsu is disclosed as being part of interface 20 (see col. 5, line 60). The rejection states that Koakutsu discloses an executing section configured to read the received data from the receiving buffer in the order of storage, and develop the received data into an image if the received data is the print data and execute a control command if the received data is a control command of the control data (see column 4 lines 4-55 and column 6 lines 1- 12 and 29-49). Appellant notes that the CPU 21 and the ROM 22 (Fig. 2) constitute the print image generator 5 and the RAM 23 constitutes the storage unit 7 of Fig. 1.

The rejection further states that Koakutsu discloses a pre-processing section configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data. However, there is no disclosure in Koakutsu that is comparable to the claimed pre-processing section configured to pre-read the received data stored in the receiving buffer. That is, Appellants agree that Koakutsu discloses a printer comprising a receiving buffer in the interface 20 (Fig. 2) or data receiving unit 4 (Fig. 1) which receives print data and control data that are

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stored therein without analysis as received data in the order of receipt; and an executing section that executes a control command if received ((printing controller 8, Fig. 1). However, these components of Koakutsu do not also constitute a pre-processing section configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data. Rather, in Koakutsu, the executing section reads the received data and if the data being analyzed is determined to be a command 11, then the command is executed. See the flow charts of Figs. 3 and 4. Thus, Koakutsu does not disclose when a specific control command of the control data from the pre-read received data is found, that the pre-processing section executes a procedure corresponding to the detected control command prior to the executing section.

The rejection states that Koakutsu discloses a pre-processing section that executes a procedure corresponding to the detected control command prior to the executing section, by referring to column 6 lines 29-49 of the reference. However, the reference clearly discloses that the detected control command is executed by that part of the printer of Koakutsu that is equivalent to the executing section claimed by Appellants. Therefore, there is no disclosure in Koakutsu of the pre-processing section of claim 1 that is configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data since, in Koakutsu, the data is read to find control commands of the control data by the components functioning as the execution section of Koakutsu.

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In particular, Koakutsu shows (in Fig. 3) a printer 3 that acquires data from a receive buffer and judges whether the data is print data 12 or a command 11 (step S4). If the data is judged to be the command 11, the command 11 is further analyzed in step S6, as shown in Fig. 4. In the analysis of the flowchart of Fig. 4, the printer 3 judges whether or not the command 11 is a print command 11a (step S41). If the command 11 is not the print command 11a, the printer 3 judges whether or not the command 11 is an erasure mode selection command 11c (step S42). If the command 11 is the erasure mode selection command 11c, the erasure mode is set according to the selection in the erasure mode selection command 11c. On the other hand, in the printer of claim 1, a pre-processing section pre-reads received data prior to an executing section, and when a specific control command is found, the pre-processing section executes a procedure corresponding to the detected specific control command. This is not disclosed by Koakutsu and therefore Appellants respectfully request that the rejection of claim 1 be reversed.

2. Rejection of Claims 18 and 20

In the rejection of claims 18 and 20, the rejection relies on Koakutsu for disclosing the claimed printer control method and computer-readable medium storing a program comprising the steps of: storing received print data and received control data as received data in a receiving buffer located within the printer in the order of receipt without analysis of the data, citing Figs. 1 and 2, column 3 lines 55-63, and column 5 lines 60-64 of the reference. It is stated that Koakutsu also discloses

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reading the received data out of the receiving buffer in the order of storage, citing column 4 lines 4-9; and developing the print data into an image if the received data is the print data, citing column 4 lines 10-18 and 31-40 and column 6 lines 46-49 of Koakutsu. It is stated in the rejection that Koakutsu shows executing a control command if the received data is a control command of the control data. Appellants agree that the foregoing steps are shown by the reference.

However, Koakutsu does not disclose the steps of pre-reading the received data stored in the receiving buffer prior to reading the received data, and further does not disclose pre-executing a procedure corresponding to a specific control command prior to the executing of the specific control command if the specific control command of the control data is detected by the pre-reading.

The Examiner cites column 6 lines 29-49 for showing the steps of pre-reading the received data and the pre-executing of a procedure corresponding to a specific control command prior to the executing of the specific control command if the specific control command of the control data is detected by the pre-reading. However, the cited portion of the reference refers to the executing of reading the stored data of the data buffer to find control commands of the control data. Although Koakutsu discloses the executing of a control command if the received data is a control command, the reference does not also disclose the pre-executing of a procedure corresponding to a specific control command that is detected in a pre-reading step. For the foregoing reasons, Appellant respectfully requests that the rejection of claims 18 and 20 be reversed.

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3. Rejection of Claim 4

Claim 4 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Koakutsu. Claim 4 is patentable at least because it depends from allowable base claim 1. Accordingly, Appellant respectfully requests that the rejection of claim 4 be reversed.

4. Rejection of Claim 5

In the rejection of claim 1, the rejection relies on Koakutsu for disclosing the printer according to claim 1, wherein the printer has only one logic channel for receiving the print data and the control data from a computer. In this configuration, the print data and control data are received serially and Appellants agree that this is shown by Koakutsu. However, Koakutsu does not disclose the pre-processing section of claim 1 that is configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data.

As a result, the Koakutsu configuration suffers from the drawback identified in the Background of the Invention section of the present application in that when a cancel command is transmitted from the computer to the printer to cancel the print of the print data already transmitted from the computer to the printer, the printer can interpret that cancel command only after finishing interpretation of the preceding print command instructing the print of that print data. As a result, the printer may needless execute a print command before receiving the cancel command.

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This does not occur in the invention of claim 5 since the pre-processing section of claim 1 is configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data, and when a specific control command is found, the pre-processing section executes a procedure corresponding to the detected specific control command prior to the executing section. For the foregoing reasons, Appellant respectfully requests that the rejection of claim 5 be reversed.

B. Rejection of Dependent Claims 2 and 3 under 35 U.S.C. §103

1. Rejection of Claim 2

Claim 2 is patentable at least because it depends from allowable base claim

1. Accordingly, Appellant respectfully requests that the rejection of claim 2 be reversed.

2. Rejection of Claim 3

Claim 3 is separately patentable from claim 2. The examiner states that Kashiwazaki shows that after a control data command, such as a cancel command, is executed the analyzer moves on to the next set of control and print commands, and that this shows the read out position changing section of claim 3. The rejection cites Kashiwazaki, column 5, lines 35-36 and Fig. 4. However, Kashiwazaki merely discloses an interruption of jobs. That is, when an interruption occurs, a resume page information 417 holds information for resuming the job which was interrupted

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by the other job. Therefore, Kashiwazaki does not disclose the read-out position changing section of claim 3 and the rejection should be reversed.

C. Rejection of Dependent Claims 6-13 under 35 U.S.C. §103

With respect to claims 6-13, the pre-processing section is claimed as being realized by a pre-read execute processing incorporated in a main task, which reads out received data from the receiving buffer according to a pre-read pointer, counts up the pre-read pointer every time, and functions, when the cancel command is found from the received data, to cancel the print based on the print data received prior to the cancel command.

Kashiwazaki discloses a job controller 306 or a DPL analyzer 307, however these sections are not realized by a main task, and the DPL analyzer 307 does not find a cancel command, and further does not cancel printing based on the print data received prior to the cancel command when the cancel command is found. Further, the reference does not disclose a read-pointer for the read-out task and a pre-read pointer, as claimed by Appellants. For the foregoing reasons, Appellants respectfully request that the rejection of claims 6-13 be reversed.

D. Rejection of Dependent Claims 14-15 under 35 U.S.C. §103

Claims 14 and 15 stand rejected under 35 U.S.C. § 103(a) over Koakutsu as applied to claim 1, and further in view of Hashimoto. Claims 14 and 15 are

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patentable at least because they depend from allowable base claim 1. Accordingly, Appellants respectfully request that the rejection of claims 14 and 15 be reversed.

E. Rejection of Dependent Claims 16 and 17 under 35 U.S.C. §103

Claims 16 and 17 stand rejected under 35 U.S.C. § 103(a) over Koakutsu in view of Hashimoto as applied to claim 14, and further in view of Kashiwazaki and Kageyama. Claims 16 and 17 are patentable at least because they depend from allowable base claim 1, intermediate claims 14 and 15 and further for the same reasons as claims 6-13 are patentable.

Mainly, claims 16 and 17 claim that the pre-processing section is realized by a pre-read execute processing incorporated in a main task, which reads out received data from the receiving buffer according to a pre-read pointer, counts up the pre-read pointer every time, and functions, when the cancel command is found from the received data, to cancel the print based on the print data received prior to the cancel command.

Kashiwazaki discloses a job controller 306 or a DPL analyzer 307, however these sections are not realized by a main task, and the DPL analyzer 307 does not find a cancel command, and further does not cancel printing based on the print data received prior to the cancel command when the cancel command is found. Further, the reference does not disclose a read-pointer for the read-out task and a pre-read pointer, as claimed by Appellants. Accordingly, Appellants respectfully request that the rejection of claims 16 and 17 be reversed.

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XI. CONCLUSION

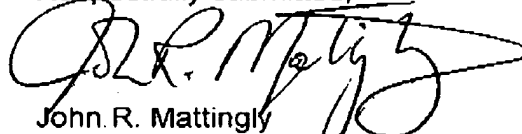
In view of the foregoing Arguments, Appellants respectfully request that the rejections of claims 1-18 and 20 be reversed.

XII. FEES

A Credit Card Payment Form is enclosed for the fee for filing a Brief in support of an appeal.

If any additional fees are due in connection with the filing of this Appeal Brief, including any Extension of Time fees that are necessary, the Commissioner is hereby authorized to charge Deposit Account No. 50-1417 for these fees.

Respectfully submitted,



John R. Mattingly
Registration No. 30,293

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.
1800 Diagonal Rd., Suite 370
Alexandria, Virginia 22314
(703) 684-1120
Date: January 30, 2008

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VIII. CLAIMS APPENDIX

1. A printer comprising:

a receiving buffer in which received print data and control data are stored therein without analysis as received data in the order of receipt;

an executing section configured to read the received data from the receiving buffer in the order of storage, and develop the received data into an image if the received data is the print data and execute a control command if the received data is a control command of the control data; and

a pre-processing section configured to pre-read the received data stored in the receiving buffer before the executing section reads the received data and, when a specific control command of the control data from the pre-read received data is found, the pre-processing section executes a procedure corresponding to the detected control command prior to the executing section.

2. The printer according to claim 1 wherein the specific control command is a cancel command for canceling the print based on the print data received prior to the specific control command, and
when the pre-processing section finds the cancel command, the pre-processing section executes the cancel command prior to the executing section.

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3. The printer according to claim 2 further comprising a read-out position changing section which functions, when the pre-processing section has executed the cancel command, such that the position in the receiving buffer for the executing section to read the received data is jumped to the position next to the cancel command.

4. The printer according to claim 1 further comprising: a rewrite section which functions, when the pre-processing section has executed the specific control command of the control data, to rewrite a no-operation command into the portion of the executed control command in the receiving buffer.

5. The printer according to claim 1 wherein the printer has only one logic channel for receiving the print data and the control data from a computer.

6. The printer according to claim 2 wherein the executing section is realized by assigning to a central processing unit in a predetermined order of priorities and executing:

a read-out task configured to read out the receiving data from the receiving buffer according to a read-out pointer, output them, and count up the read-out pointer every time; and

a main task configured to acquire the received data from the read-out task, the main task developing the print data into the image when the received data is the

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print data and executing the control command of the control data when the received data is the control data,

the pre-processing section being realized by a pre-read execute processing incorporated in the main task, which reads out the received data from the receiving buffer according to a pre-read pointer, counts up the pre-read pointer every time, and functions, when the cancel command is found from the received data, to cancel the print based on the print data received prior to the cancel command.

7. The printer according to claim 6 wherein, if the cancel command has been detected by the pre-processing section, the read-out task moves the read-out pointer forward to the position next to the pre-read pointer.

8. The printer according to claim 2 wherein the executing section is realized by assigning to a central processing unit in a predetermined order of priorities and executing:

a read-out task configured to read out the receiving data from the receiving buffer according to a read-out pointer, output them, and count up the read-out pointer every time; and

a main task configured to acquire the received data from the read-out task, the main task developing the print data into the image when the received data is the print data and executing the control command of the control data when the received data is the control data,

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the pre-processing section being realized by assigning a pre-read task to the central processing unit in a predetermined order of priorities and executing the pre-read task, the pre-read task reading out the received data from the receiving buffer according to a pre-read pointer, counting up the pre-read pointer every time, and functioning, when the cancel command is found from the received data, to transmit to the main task a message for canceling the print based on the print data received prior to the cancel command.

9. The printer according to claim 8 wherein the priority of assignment of the processing unit to the pre-read task is lower than the priorities to the read-out task and the main task.

10. The printer according to claim 8 wherein, if the cancel command has been detected by the pre-processing section, the read-out task moves the read-out pointer forward to the position next to the pre-read pointer.

11. The printer according to claim 2 wherein the executing section is realized by assigning to a central processing unit in a predetermined order of priorities and executing:

a read-out task configured to read out the receiving data from the receiving buffer according to a read-out pointer, output them, and count up the read-out pointer every time; and

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a main task configured to acquire the received data from the read-out task, and the main task developing the print data into the image when the received data is the print data and executing the control command of the control data when the received data is the control data,

the pre-processing section being realized by assigning a pre-read task to the central processing unit in a predetermined order of priorities and executing the pre-read task, the pre-read task reading out the received data from the receiving buffer according to a pre-read pointer, counting up the pre-read pointer every time, and functioning, when the cancel command is found from the received data, to transmit to the read-out task a message for canceling the print based on the print data received prior to the cancel command.

12. The printer according to claim 11 wherein the priority of assignment of the processing unit to the pre-read task is lower than the priorities to the read-out task and the main task.

13. The printer according to claim 11 wherein, if the cancel command has been detected by the pre-processing section, the read-out task moves the read-out pointer forward to the position next to the pre-read pointer.

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14. The printer according to claim 1 wherein the specific control command is a paper size designation command which designates a particular paper size for printing the print data received subsequently to the paper size designation command, the pre-processing section functioning upon detection of the paper size designation command to determine beforehand whether the print on a sheet of paper of the size designated by the paper size designation command is possible, and functioning upon the print being impossible to inform a user of that fact.

15. The printer according to claim 14 wherein the pre-processing section functions upon detection of the paper size designation command to determine beforehand whether the printer has a paper tray of the size designated by the paper size designation command and, if the printer has no paper tray of the size designated by the paper size designation command, to inform a user of that fact, and to determine beforehand whether the paper tray of the size designated by the paper size designation command contains a sheet of paper and, if the paper tray of the size designated by the paper size designation command has no paper, to inform the user of that fact.

16. The printer according to claim 14 wherein the executing section is realized by assigning to a central processing unit in a predetermined order of priorities and executing:

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a read-out task configured to read out the receiving data from the receiving buffer according to a read-out pointer, output them, and count up the read-out pointer every time; and

a main task configured to acquire the received data from the read-out task, the main task developing the print data into the image when the received data is the print data and executing the control command of the control data when the received data is the control data,

the pre-processing section being realized by pre-read execute processing incorporated in the main task, which reads out the received data from the receiving buffer according to a pre-read pointer, counts up the pre-read pointer every time, and functions, when the paper size designation command is found from the received data, to determine beforehand whether the print on a sheet of paper of the size designated by the paper size designation command is possible, and if not, to inform a user of that fact.

17. The printer according to claim 14 wherein the executing section is realized by assigning to a central processing unit in a predetermined order of priorities and executing:

a read-out task for reading out the receiving data from the receiving buffer according to a read-out pointer, outputting them, and counting up the read-out pointer every time; and

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a main task configured to acquire the received data from the read-out task, the main task developing the print data into the image when the received data is the print data and executing the control command of the control data when the received data is the control data,

the pre-processing section being realized by assigning a pre-read task to the central processing unit in a predetermined order of priorities and executing the pre-read task, the pre-read task reading out the received data from the receiving buffer according to a pre-read pointer, counting up the pre-read pointer every time, and functioning, when the paper size designation command is found from the received data, to determine beforehand whether the print on a sheet of paper of the size designated by the paper size designation command is possible, and if not, to inform a user of that fact.

18. A printer control method comprising the steps of:

storing received print data and received control data as received data in a receiving buffer located within the printer in the order of receipt without analysis of the data;

reading the received data out of the receiving buffer in the order of storage;

developing the print data into an image if the received data is the print data;

executing a control command if the received data is a control command of the control data;

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pre-reading the received data stored in the receiving buffer prior to reading the received data;

pre-executing a procedure corresponding to a specific control command prior to the executing of the specific control command if the specific control command of the control data is detected by the pre-reading.

19. (Canceled)

20. A computer-readable medium storing a program for controlling a printer, the program comprising the steps of:

storing received print data and received control data as received data in a receiving buffer located in the printer in the order of receipt without analysis of the data;

reading the received data out of the receiving buffer in the order of storage;

developing the print data into an image if the received data is the print data;

executing a control command if the received data is a control command of the control data;

pre-reading the received data stored in the receiving buffer prior to the reading the received data; and

pre-executing a procedure corresponding to a specific control command prior to the executing the specific control command if the specific control command of the control data is detected by the pre-reading.

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IX. EVIDENCE APPENDIX

None

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X. RELATED PROCEEDINGS APPENDIX

None.